

CLAIMS

The invention claimed is:

1. An RFID tag comprising:
a decoder for decoding a first received wireless signal subject to a reception bandwidth setting; and
a selector switch for transitioning to a second different setting to control further decoding by the decoder of a second subsequently received second signal.
2. The tag of claim 1, further comprising:
a filter, and
wherein the selector switch adjusts a bandwidth of the filter.
3. The tag of claim 2, wherein the filter is an active filter.
4. The tag of claim 2, wherein the filter is a passive filter.
5. The tag of claim 2, wherein the bandwidth is adjustable continuously over a range.
6. The tag of claim 2, wherein the filter includes at least two of a resistance, a capacitance and an inductance, and
at least one of the resistance, the capacitance and the inductance can be switched on and off.

7. The tag of claim 2, wherein the filter includes a capacitor and a switch switched at a variable rate.
8. The tag of claim 2, wherein the filter includes a resonator.
9. The tag of claim 1, further comprising:
a plurality of filters in possible paths of the received signal, and
wherein the selector switch routes the received first and second signal through different ones of the paths.
10. The tag of claim 1, wherein the decoder is adapted to generate a decoded signal responsive to decoding the first signal, and
the selector switch is adapted to transition to the different setting responsive to the first decoded signal.
11. The tag of claim 10, wherein the decoder is further adapted to generate a trigger signal from the decoded signal,
and further comprising:
a filter bandwidth adjuster adapted to control the selector switch responsive to the trigger signal.

12. The tag of claim 11, wherein the decoder is further adapted to compare the decoded signal to a preset code, and generate the trigger signal responsive to the comparison.
13. The tag of claim 12, wherein the preset code is at least a portion of a preamble.
14. The tag of claim 13, wherein the selector switch is adapted to transition to the different setting if the decoded signal matches the preset code.
15. The tag of claim 12, wherein the selector switch is adapted to transition to the different setting if the decoded signal does not match the preset code.
16. The tag of claim 12, wherein the selector switch is adapted to transition to the different setting if the decoded signal does not match the preset code after a preset time period.
17. The tag of claim 16, wherein the preset time period is two preamble durations.
18. The tag of claim 12, wherein the decoder further determines an active data rate of the first signal, and
encodes the active data rate in the trigger signal.

19. The tag of claim 18, wherein the active data rate is determined by determining a bit period between successively received symbols of the decoded first signal.
20. The tag of claim 18, wherein the decoded first signal is a preamble that has a preassociated data rate, and
the active data rate is determined from the preassociated data rate.
21. The tag of claim 18, wherein the preset code is a DATA RATE command,
the decoded first signal is the DATA RATE command with an associated data rate instruction, and
the active data rate is determined from the instruction.
22. A device comprising:
means for receiving a first and a second wireless signal;
means for decoding the first signal subject to a first reception bandwidth setting and the second signal subject to a second reception bandwidth setting different from the first setting; and
means for transitioning to the second setting from the first setting.
23. The device of claim 22, wherein transitioning is performed responsive to the first decoded signal.
24. The device of claim 23, further comprising:

means for comparing the decoded first signal with a preset code; and
means for determining whether to transition or not to the second setting
depending on the comparison.

25. The device of claim 24, wherein if it is determined to not transition, the second signal is decoded subject to the first setting instead of the second setting.
26. The device of claim 24, wherein the preset code is at least a portion of a preamble.
27. The device of claim 24, wherein it is determined to transition if the decoded first signal does not match the preset code.
28. The device of claim 27, wherein it is determined to transition if the decoded first signal does not match the preset code after a preset waiting time.
29. The device of claim 28, wherein the preset waiting time is approximately two preamble durations.
30. The device of claim 24, wherein it is determined to transition if the decoded first signal matches the preset code.
31. The device of claim 22, wherein a plurality of reception bandwidth settings are provided, and

the second setting is the one of the plurality that is associated with the largest available reception bandwidth.

32. The device of claim 31, wherein the first setting is associated with a bandwidth of approximately 50kHz.

33. The device of claim 22, wherein the second setting depends on the first setting.

34. The device of claim 33, wherein a plurality of reception bandwidth settings are provided, and

the second setting is the one of the plurality that is associated with the incrementally next smaller available bandwidth than the first setting.

35. The device of claim 22, further comprising:

means for determining an active data rate from the decoded first signal, and

wherein a plurality of reception bandwidth settings are provided, and

the second setting is the one of the plurality that is associated with a bandwidth that best fits the active data rate.

36. The device of claim 35, wherein the active data rate is determined by determining a bit period between successively received symbols of the decoded first signal.

37. The device of claim 35, wherein the decoded first signal is a preamble that has a preassociated data rate, and

the active data rate is determined from the preassociated data rate.

38. The device of claim 35, wherein the decoded first signal is a DATA RATE command with an associated data rate instruction, and

the active data rate is determined from the instruction.

39. The device of claim 22, wherein transitioning is performed by adjusting a bandwidth of a filter.

40. The device of claim 22, wherein transitioning is performed by changing a path of the second received signal compared to the first received signal.

41. The device of claim 40, wherein the signal path includes a first filter, and transitioning routes the signal through a second filter.

42. A method for an RFID tag, comprising:

receiving a first wireless signal;

decoding the first signal subject to a first reception bandwidth setting;

transitioning to a second reception bandwidth setting different from the first setting;

receiving a second wireless signal; and

decoding the second signal subject to the second setting.

43. The method of claim 42, wherein transitioning is performed responsive to the first decoded signal.

44. The method of claim 34, further comprising:
comparing the decoded first signal with a preset code; and
determining whether to transition or not to the second setting depending on the comparison.

45. The method of claim 44, wherein if it is determined to not transition, the second signal is decoded subject to the first setting instead of the second setting.

46. The method of claim 44, wherein the preset code is at least a portion of a preamble.

47. The method of claim 44, wherein it is determined to transition if the decoded first signal does not match the preset code.

48. The method of claim 47, wherein it is determined to transition if the decoded first signal does not match the preset code after a preset waiting time.

49. The method of claim 48, wherein the preset waiting time is approximately two preamble durations.

50. The method of claim 44, wherein it is determined to transition if the decoded first signal matches the preset code.

51. The method of claim 50, further comprising:
transitioning to a third reception bandwidth setting different from the second setting;
receiving a third signal; and
decoding the third signal subject to the third setting.

52. The method of claim 42, wherein a plurality of reception bandwidth settings are provided, and
the second setting is the one of the plurality that is associated with the largest available reception bandwidth.

53. The method of claim 52, wherein the first setting is associated with a bandwidth of approximately 50kHz.

54. The method of claim 42, wherein the second setting depends on the first setting.

55. The method of claim 54, wherein a plurality of reception bandwidth settings are provided, and

the second setting is the one of the plurality that is associated with the incrementally next smaller available bandwidth than the first setting.

56. The method of claim 42, further comprising:

determining an active data rate from the decoded first signal, and

wherein a plurality of reception bandwidth settings are provided, and

the second setting is the one of the plurality that is associated with a bandwidth that best fits the active data rate.

57. The method of claim 56, wherein the active data rate is determined by determining a bit period between successively received symbols of the decoded first signal.

58. The method of claim 56, wherein the decoded first signal is a preamble that has a preassociated data rate, and

the active data rate is determined from the preassociated data rate.

59. The method of claim 56, wherein the decoded first signal is a DATA RATE command with an associated data rate instruction, and

the active data rate is determined from the instruction.

60. The method of claim 42, wherein transitioning is performed by adjusting a bandwidth of a filter.
61. The method of claim 42, wherein transitioning is performed by changing a path of the second received signal compared to the first received signal.
62. The method of claim 61, wherein the signal path includes a first filter, and transitioning routes the signal through a second filter.